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<b>(21) International application number:</b> PCT/FR99/02400  <b>(22) International filing date:</b> 7 October 1999 (07.10.99)  <b>(30) Data relating to the priority:</b> 98/12,601 8 October 1998 (08.10.98) FR  <b>(71) Applicant (for all designated States except US):</b> ONERA (OFFICE NATIONAL D'ETUDES ET DE RECHERCHES AEROSPATIALES) [FR/FR]; 29, avenue de la Division Leclerc, F-92320 Chatillon (FR). AEROSPATIALE MATRA [FR/FR]; 37, boulevard de Montmorency, F-75016 Paris (FR).  <b>(72) Inventors; and</b> <b>(75) Inventors/Applicants (US only):</b> DUCHENNE, Bruno [FR/FR]; 7, Impasse de la Forge, F-31650 Saint Orens de Gameville (FR). ISBERT, Jacques [FR/FR]; 25, rue Saint Hippolyte, F-31100 Toulouse (FR).  <b>(74) Representative:</b> BONNETAT, Christian; Cabinet Bonnetat, 29, rue de St. Pétersbourg, F-75008 Paris (FR).		<b>(81) Designated states:</b> CA, CN, JP, RU, US, European Patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).  <b>Published</b> With the International Search Report.

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(54) Title: ELECTROMAGNETIC PULSE TRAIN GENERATION FOR TESTING OPTICAL FIBRES(54) Titre: GENERATION D'UN TRAIN D'IMPULSIONS ELECTROMAGNETIQUES POUR TEST DE FIBRES OPTIQUES

## (57) Abstract

The invention concerns a testing system and method, and a device emitting electromagnetic pulses comprising a generator (2) and an optical fibre (F) capable of transmitting an electromagnetic pulse generated by said generator (2). The invention is characterised in that said device (1A) further comprises at least an optical cavity (3A) which is arranged on the path of an incident electromagnetic pulse transmitted by the optical fibre (F) and comprising an input

provided with a first partially reflecting mirror (M1A) and an output provided with a second partially reflecting mirror (M2A), said mirrors being arranged so as to generate at the optical cavity (3A) output, from one single incident electromagnetic pulse, a train of radiated electromagnetic pulses, whereof the geometric extent characteristics are variable.

